The Correlation Between Geography and Territorial Planning. A Conceptual Model

Călin-Cornel Pop
"Babeş-Bolyai" University, Cluj-Napoca, Romania

Introduction

The multitude of correlations that appear in any geographic system, as a result of the connection of its parts, through their intimacy, intensity, duration and quality provide the system, above all, with the complexity characteristic.

The profound analysis of the correlations can lead to distinguished results, in any plan of activity, especially in defining the state of geographic system. The matter of analyzing the correlation between geographic components and different land structures is not a new one, but it has come back in fashion because of the effect that it might have on ensuring the useful data for the process of territorial planning.

The identity, perception, analysis, and the evaluation of the functional coexisting correlations, allow to a certain extent the comprehension of functioning of the architectonic of a geographical scale order.

Considering a territorial system (e. g. an urban system, a geographic axis etc.), a scale order (geographic system), unitary and complex, composed of many interdependent subsystems, knowledge and insurance of the geographic sizes as well as quantifying the geographic correlations become the main indispensable conditions of the territorial planning.

The simple correlations can be expressed through proportions, and the special correlations and the detailed ones, characterize the connections between the subsystem and other inferior units, but also the connections inside them. In fact, the entire system of geographic correlations manifest place during the geographic balance, a state resulted from a determinant system of natural, social and economic factors.

The Expressiveness of the Notions

Correlation; Geographic Correlation

According to the definition provided by the Dictionary by correlation we understand:

- relation, mutual bond between 2 or several things and phenomena; a relation within which one of the components cannot exist without the other;
- mutual dependence, relation of two phenomena or processes that imply a certain bond in their variations;

The comprehension of these two definitions given to the notion of correlation, enables us to say that the territorial planning, as a practical operation but also the planning maker as a land modeler, cannot abide from the rule, but they also have to live in correlation with the geography seen as a fund of territory accumulation, and the geographer seen as a modeler of this practice.

We don't have to find a match to the words mentioned above (planning, planner, geography, geographer) but we have to say that geography as a form of accumulation and the planning as a form of consume through modeling the territory of any nature, exist in correlation.

Going deep into the expression of the notion, with the purpose of a clear understanding of the term of geographic correlation we have to mention the definition given to the term by

I. Mac (2000). "*A relation of mutual existence where the components cannot exist outside the others and there are certain rapports of dependence, sustenance and together working ness between them*".

Accepting the connotations of the notion through to two meanings, naming:

- *in a theoretical sense* - the correlation is defined as being "the bond of dependence between the mass phenomena or between different quantity or quality characteristics of the element which compose a group";
- *in a practical sense* - the correlation is defined, as being "the measurable rapport between two or more variables" the connection seems easy, comprehensive and coherent.

The correlation phenomenology obliges us to several statements those being:

- understanding the geographic correlation as a phenomena, does not necessary involve the causes;
- the intensity of the geographic correlation, is measured by a coefficient which allows comparisons among phenomena;
- the method of correlation is used in the analysis of the phenomena when the connection between the variables does not appear in an obvious way.

Through this statement, we don't intend to deny the previous definitions, but only enriching the notional acceptation, this way avoiding the risk of leaving any opened questions to the meaning of the notion.

In fact, the comprehension of the figures by which the correlation both as a notion and a phenomena, is part of the geographic approach, prove the wideness which is provided to the term in the new scientific and geographic area.

Among the main characteristics of the correlation we mention:

Temporality. The correlation seen as a temporal phenomenon, is an expression of the objective geographic laws which are formed and altered in time influenced by several natural, demographic and social factors, also being influenced by the actions of man, which can hurry or slow down its intensity in time. From this point of view there are two kinds of correlations: the natural correlation (physic) and the aware correlation.

Optimality. This is a characteristic of which we can say that springs from the first one and it points out the way in which the correlations that took place in every stage (short or long time) influence positive and intensive the development towards other levels, only to the extent in which they show the demands of the objective laws, aiming the so called "optimal proportions".

Complexity. The more developed the elements in the field of correlation, the more evaluated the ways of manifestations, the more difficult their diagnosis and their prognosis, the longer is the period of time, and the more complex are correlations.

The demonstration of the complexity responds to the affinity of understanding of the correlation's product this way:

- the correlations have large spheres of manifesting;
- the correlations result of multiple joining of the parts;
- the correlations are multifunctional, especially their product with development in several directions;
- the correlations are polymorphic, that is they take different forms;
- genetically speaking, the correlations are made up of several parts;
- the correlations are polyvalent.

Territorial Planning

The term of planning has many uses in different areas of science. Referring to the geographic approach, the term is provided with a theoretical alteration, this combined with the term of land (territory). In this new approach through the term, we have to understand different scalar orders from micro to macro scale. Thus, the operation of land planning becomes a way of understanding the geography or of a territory.

Nevertheless we have to make a distinction between the geographer and the planner, as the geographer has to be seen from a scientific point of view and the planner from a technical one. Only the correlation geography planning responds to the demands that an operation like

territorial planning is developed by.

Territorial planning is a process that has as finality the well function of a scalar order. In time, this process was in the attention of the specialists from different domains: politicians, economists, social workers, geographers etc.

In a geographic sense, very close to this operation is the methodology and the means used by the geographic region, but with some differences, meaning that the region sets certain "parts of the territory", according to very good defined criteria, as functionality, homogeneity, contiguity where such as the land planning has to respond to its role as a modeler of the territory, through a good intervention, through a good thinking, and finality it has to answer to a "healthy thinking" in the prospective of the future.

This is where the difference appears, as the region responds to the present through the past, and the planning has to respond to the future through the present. The activity of territorial planning has an unlimited basis of geography.

The modeler of the territory has to follow some *moments* that are necessary in his work in the shape of an included approach. The first step is the analysis of the environment that surrounds the element that has to be planned, after that the analysis follows a path from micro scale towards complex.

There are some matters that refer to the importance of the geography for territorial planning. Generally, but also particularly, geography has a great importance, which springs from the necessity of principle of the planner, this being that the planner has to understand the existing landscapes before trying to shape them. This affirmation gives credit to the geographer in the activity of land planning.

Although there still exist cases where the factors of decision with the land planning, belong to different areas of public life, or even more negative they don't appeal to geographers. The consequences of this ignorance are visible under our eyes, and the finalities are disastrous.

In geographic aspect, the territorial planning as modeling of the territory have several defining *aspects*, which have to be the starting point:

- the territorial planning, represents the expression of using in a rational, aware way of the territory's geography which is studied;
- the territorial planning has to be a means of understanding the future;
- as re-modelation of the territory, the planning is needed and possible thanks to the existence of certain geographic premises, either natural, economic or organizing ones;
- the activity of territorial planning involves conceiving long term programs but also organizing and harmonizing of all the geographic characteristics for short periods of time;
- for an efficient long lasting planning a scientific fundament is necessary, translated through studies, calculations, analysis;
- as logical and guided by laws operation, territorial planning has to follow a path starting from the analysis made from a micro level towards a macro level.

The territorial planning, product of the new technical-scientific views, as a measure of the level of understanding the future is defined by several functional and operational *definitions*.

Thus, a planning (to plan) means:

- to decide about the future responsibilities;
- to set a number of objectives that are imperative, which have to be quantified and then prognosed;
- to set the measures which have to be taken to fulfill, this activity;
- to control the way in which they work together to fulfill the finality diagnosis that was prognosed.

Taking the activity of land planning in practice, for instance, inside a land system, this has to respond to the main *factors* that show the development and geographic harmony through:

- coordinating the activities at a macro scale level with the development at a micro scale;
- the study of the geographic potential and of the land system;
- the study of natural conditions, social and economic ones;
- the analysis and the evaluation of all the characteristics that is specific to each zone

and town or city to obtain a general set of data and information.

This studies become elements of the territorial planning and they view:

- the place and dimension of the resources consisting of raw materials and combustions;
- the hydro-geographic conditions;
- the possibility of ensuring energy;
- the resources and structure of population and of the working land;
- the situation of the state provided funds;
- the characteristics of the towns, villages regarding traffic, socio-cultural units, services etc.

To put it another way, the *prognosis*, as a consisting part of the land modeling operation, involves:

- conceiving a conception regarding the development of an optimal net of substance, energy and information flow among towns and inside them;
- conceiving of some perspective studies of social and demographic structure;
- prognosis on material balances, spiritual and valuable from the working capability point of view;
- various other calculations regarding resources, raw materials, energy, water etc.

In all this demanding activity we are not to forget about the following *aspects* which are bond to the future:

- the rational handle of the resources which are to satisfy their function, tied up with the demands of recreating of their quality;
- ensuring a lasting development by making “the existence” efficient, of the present in a balanced way, the long lasting based on economic, social, cultural and historic efficiency;
- the structural flexibility and functional complementarity;

The harmony of the relations between:

- Town – territory;
- Town – environment;
- Territory – environment

In conclusion, the activity of territorial planning has a number of stages and intermediate plans determined by the nature of viewed objectives and minding the potential of the available means which are the starting point, and the potential of the means that can be acquired afterwards. By territorial planning a more useful bond is being made between the proposed objectives and the purposes of answering, taking into consideration:

- adapting the means and actions according to the objectives;
- alacing the opportunities in time;
- the together working of the factors within the territory;
- observing, evaluating and guided intervention of the results in stages.

Quantifying the Correlation Between Geography and Territorial Planning

One of the main conditions of the geocontemporanity is the fast rhythm of trying to harmonize the geographic territory. This harmonizing-remodeling-redimentioning line, all the processes and phenomena of the geographic systems, are led by objective laws which become better known, easier to be understood once we advance in science.

In this way there appear domains of interaction with their own characteristics, for instance, the one of trying to quantify the *Geography* and the *Territorial Planning* meaning: on the one hand science *Geography* and on the other hand, an activity - *the Planning*, together with a domain to be applied on - *the territory*.

From the interaction of these three aspects, according to figure 1, there result four different matters naming:

1. The relation Geography - Planning
2. The relation Territory - Planning
3. The relation Geography - Territory
4. The correlation Geography - Planning - Territory

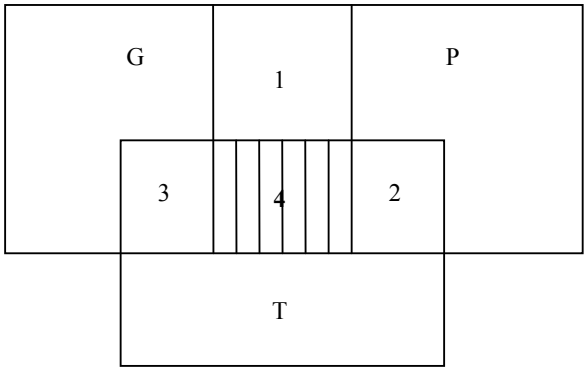

Figure 1. The correlation Geography-Planning Territorial.

From the results of this examples the connection between *Geography* and *Territorial Planning*, identified in the subsystem no. 4 is in our attention to be quantified.

We also have to say that the subsystem of the correlation shows the high degree of connection between Geography and Territorial Planning, meaning the ability of these elements to understand each other and to act in consequence in a manner specific to the new formed subsystem.

The quantification in Geography involves obtaining some data which describe the varying of a process, the dimension of a form, the degree of dependence between two elements etc., as well as the methods and models of receiving, handling and interpretation of those.

The problem of obtaining the data is not an easy one and referring to this aspect, in the year 1955 Krumbein said that in collecting of data, there has to be a well defined procedure, that has to consider the nature of the problem, the studied characteristics, the level of knowledge, so that there are no confusions regarding the parameters that are to be calculated.

Methods of the Correlation Between Geography and Territorial Planning

The study of the systems has as a purpose perfecting the methods of modeling with the intention to identify and improve the best choice (the selective moment), from several possible options in practical activity. Inside the territorial system, usually there are a number of direct connections and reversed ones with *discrete* character, which the specialist, in our case the geography planner, can and has to know in order to comprehend this way, the whole process.

Because of the self control, the correlation system, has a cybernetic character, a fact which includes a number of *characteristics* to the system those being:

- the correlation system becomes *controllable*;
- it is a system that can be *adjusted* from the time and space point of view;
- being open to improvements, it becomes a *structurable* system;
- it is a system that can set *connections* between its subsystem and its substructures.

All these notes strengthen the argument through which the self-control character protects the correlation system of degradation.

We start from L. A. Zadeh's affirmations when we try to represent in a graphic way the evolution of the connection Geography-Territorial Planning. He says that the systems that are too complex or the problems with a weak definition do not admit a precise quantity analysis.

He uttered the following principle of incompatibility: "*The more complex a system gets, our ability, to make precise statements (in writing or draws), and still significant regarding its behavior is weakening, until we get beyond the point where precision and significance become characteristics which almost expel each other*".

To put it another way, the vague character is a condition of the very complex system and that is why we percept them easier with a vague thinking.

We don't want to say here that the correlation system Geography-Territorial Planning is a very complex system, but we can't omit its increasing complexity either, once with the evolution (going from incoherent homogeneity to coherent heterogeneity), which defines it.

Under these circumstances, we can imagine for instance various sub-models of correlation evolution where: X = Geography and Y = Territorial Planning.

a). The exponential model (fig. 2).

This model represents an exponential growth of the result given by Planning inside the system, a growth which is consciously limited and slowed down by Geography (feed-back) to avoid that the territory from becoming artificial.

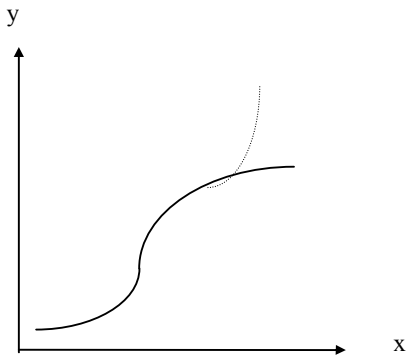

Figure 2. The exponential model.

b). The feed-back model (fig. 3).

The b) model presents a double situation, meaning that both Geography and Territorial Planning can be imagined both as independent variables and dependent variables. But both sub-models (b1 and b2) state that under the circumstances of keeping an alert rhythm (the lack of the feed-back) both for Geography as a variable dependent as well as for Planning as a variable dependent, we witness a collapse of the two elements, one conditioned by the other.

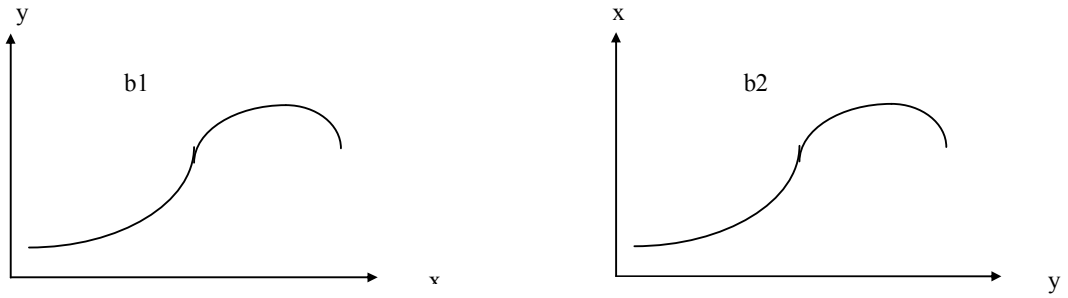

Figure 3. The feed-back model.

c). The sinusoidal model (fig. 4).

The sinusoidal model represents a correlation with the waiting parameter (p.a.), because in these periods, the accumulation of geographic information should be covered, but also waiting to revive some tectonic, weather and politic elements that should allow a new level in the Territorial Planning.

To put it another way, modeling the territory doesn't have to be a sudden, short lasting process, because we don't know the finalities, so we have to have these moments of waiting for the possible geographic manifestations that can alter the process of Planning strongly.

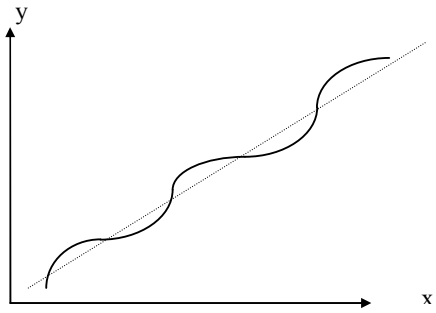

Figure 4. The sinusoidal model.

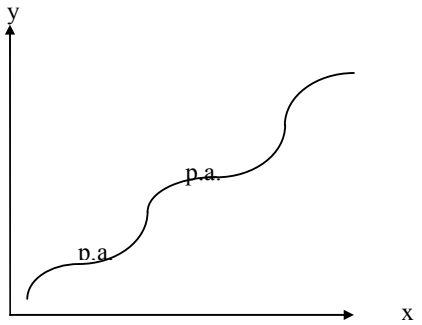

Figure 5. The complementary model.

d). The complementary model (fig. 5).

The d) model is very close to the truth and comes to complete the others, especially the sub-model c), representing a sub-model of the correlation, with undulations surrounding a climbing path.

We state that the undulations, may have a good effect on Territorial Planning, considering the changing nature of many nature processes, the curly character of social life, and why not the professional and spiritual curves specific to each and every person.

References

Apostol, P. (1977), *Viitorul*, Editura Ştiinţifică şi Enciclopedică, Bucureşti.
Drăgănescu, M. (1989), *Inelul lumii materiale*, Editura Ştiinţifică şi Enciclopedică, Bucureşti.
Mac, I. (1986), *Elemente de geomorfologie dinamică*, Editura Academiei, Bucureşti.
Malița, M. (1977), *Sisteme în ştiinţele sociale*, Editura Academiei, Bucureşti.
Mare Călina, (1980), *Introducere în ontologia generală*, Editura Albatros, Bucureşti.
Nechita, C.V. (1992), *Economie Politică*, vol. I, Editura Porto-Franco, Galaţi.
Radoane Maria, Ichim, I. (1996), *Analiza cantitativă în geografia fizică*, Editura Universităţii Al. I. Cuza, Iaşi.
Roşu, Al. (1987), *Terra - Geosistemul vieţii*, Editura Ştiinţifică şi Enciclopedică, Bucureşti.
Teodorescu, D. (1974), *Sisteme automate*, Editura Facla, Timişoara.